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August 12, 2013

Mr. Newton Tedder  
U.S. EPA, Region I  
5 Post Office Square  
Suite 100, Mail Code OEP 06-4  
Boston, MA 02109-3912

Re: 2013 New Hampshire Small MS4 Draft General Permit

Dear Mr. Tedder:

Conservation Law Foundation (CLF) appreciates the opportunity to comment on the above-referenced draft general permit, pertaining to small municipal separate storm sewer systems (MS4s) in New Hampshire. CLF is a member-supported environmental advocacy organization that works to solve the problems threatening our natural resources and communities in New Hampshire and throughout New England. CLF has worked, and continues to work, to protect the health of our waterways and, in doing so, to promote effective regulations and strategies to reduce and minimize the significant impacts of stormwater pollution. CLF submitted comments on the prior iteration of this draft permit by letters dated February 20, 2009 and July 27, 2010.

## I. General Comments

Stormwater runoff from impervious areas has significant negative impacts on water quality throughout this region and nationwide. As the EPA Office of Water has found, "Stormwater runoff in urban and developing areas is one of the leading sources of water pollution in the United States."<sup>1</sup> The National Research Council (NRC) agrees: "Stormwater runoff has a deleterious impact on nearly all of the nation's waters"<sup>2</sup> – as does the Ninth Circuit Court of Appeals: "Stormwater runoff is one of the most significant sources of water pollution in the nation."<sup>3</sup>

In its preamble to the Phase II stormwater regulations in 1999, EPA explained the impacts of stormwater runoff in detail:

<sup>1</sup> U.S. Environmental Protection Agency, Office of Water, *Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act*, Forward by Peter S. Silva, Assistant Administrator (Dec. 2009), available at [http://www.epa.gov/oaintrnt/documents/epa\\_swm\\_guidance.pdf](http://www.epa.gov/oaintrnt/documents/epa_swm_guidance.pdf).

<sup>2</sup> National Research Council, Committee on Reducing Stormwater Discharge Contributions to Water Pollution, *Urban Stormwater Management in the United States* at 25 (2008), available at [http://www.nap.edu/catalog.php?record\\_id=12465](http://www.nap.edu/catalog.php?record_id=12465).

<sup>3</sup> *Environmental Defense Center v. EPA*, 344 F.3d 832, 840 (9th Cir. 2003).

Storm water runoff from lands modified by human activities can harm surface water resources and, in turn, cause or contribute to an exceedance of water quality standards by changing natural hydrologic patterns, accelerating stream flows, destroying aquatic habitat, and elevating pollutant concentrations and loadings. Such runoff may contain or mobilize high levels of contaminants, such as sediment, suspended solids, nutrients (phosphorous and nitrogen), heavy metals and other toxic pollutants, pathogens, toxins, oxygen-demanding substances (organic material), and floatables. ... Individually and combined, these pollutants impair water quality, threatening designated beneficial uses and causing habitat alteration or destruction.<sup>4</sup>

These water quality impairments “result[] in an unhealthy environment for aquatic organisms, wildlife, and humans.”<sup>5</sup>

EPA has recognized that stormwater runoff is a “contributor to water quality impairments across the country, particularly in developing and urbanized areas.”<sup>6</sup> Stormwater has these effects in large part due to the harmful contaminants that it carries into receiving waters. According to the NRC, “The chemical effects of stormwater runoff are pervasive and severe throughout the nation’s urban waterways, and they can extend far downstream of the urban source. ... A variety of studies have shown that stormwater runoff is a vector of pathogens with potential human health implications.”<sup>7</sup>

In particular, over 250 studies have shown that increases in impervious area associated with urban development are a “collection site for pollutants,”<sup>8</sup> and generate greater quantities (and additional types) of contaminants. Urban development creates new pollution sources as population density increases and brings with it “proportionately higher levels of car emissions, maintenance wastes, pet waste, litter, pesticides, and household hazardous wastes, which may be washed into receiving waters by storm water.”<sup>9</sup> These increases in pollutant loadings can result in immediate and long-term effects on the health of the water body and the organisms that live in it.<sup>10</sup> The U.S. Geological Survey has found that, in areas of increased urban development, local rivers and streams exhibited increased concentrations of contaminants such as nitrogen, chloride, insecticides, and polycyclic aromatic hydrocarbons (PAHs).<sup>11</sup>

The increased stormwater volume and pollutant loadings caused by urbanization, especially impervious cover, are closely connected with water body impairment. Contaminants, habitat

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<sup>4</sup> National Pollutant Discharge Elimination System—Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges, 64 Fed. Reg. 68,722, 68,724 (Dec. 8, 1999) (citation omitted).

<sup>5</sup> *Id.*

<sup>6</sup> U.S. Environmental Protection Agency, *TMDLs to Stormwater Permits Handbook*, Office of Water cover letter (2008), available at [http://www.epa.gov/owow/tmdl/pdf/tmdl-sw\\_permits11172008.pdf](http://www.epa.gov/owow/tmdl/pdf/tmdl-sw_permits11172008.pdf).

<sup>7</sup> National Research Council, *supra* note 3, at 26.

<sup>8</sup> EPA, Office of Water, *Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act*, *supra* note 2, at 5.

<sup>9</sup> 64 Fed. Reg. at 68,725.

<sup>10</sup> U.S. Geological Survey, *Effects of Urban Development on Stream Ecosystems in Nine Metropolitan Study Areas Across the United States* at 20 (2012), available at <http://pubs.usgs.gov/circ/1373/>.

<sup>11</sup> *Id.* at 3.



destruction, and increasing streamflow flashiness resulting from urban development have been associated with the disruption of biological communities.<sup>12</sup> The NRC states, “By almost any currently applied metric...the net result of human alteration of the landscape to date has resulted in a degradation of the conditions in downstream watercourses.”<sup>13</sup>

The deleterious effects of urbanization on water quality are evident from a review of the lists of impaired waters states must compile in compliance with the Clean Water Act. Thousands of water bodies nationwide are currently listed as impaired for stormwater-source pollutants such as pathogens, nutrients, sediments, and metals.<sup>14</sup> Of those impaired water bodies, by 2000, impairments from stormwater runoff were “responsible for about 38,114 miles of impaired rivers and streams, 948,420 acres of impaired lakes, 2,742 square miles of impaired bays and estuaries, and 79,582 acres of impaired wetlands” – and the NRC considers these figures to be underestimates of actual impairments.<sup>15</sup> Urban stormwater is listed as the “primary” source of impairment for 13 percent of all rivers, 18 percent of all lakes, and 32 percent of all estuaries, despite the fact that urban areas cover just 3 percent of U.S. land mass.<sup>16</sup>

In New England, according to Region 1, “[s]tormwater runoff from impervious areas contributes to poor surface water quality, including altered flow regime (shoreline erosion and stream channel alteration), the presence of pollutants, and the destruction of healthy populations of fish and other aquatic life.”<sup>17</sup> Because of this, “[t]oday, polluted stormwater runoff is a major cause of water quality impairment in New England.”<sup>18</sup> In New Hampshire, stormwater has been identified as contributing to over 80 percent of surface water quality impairments in the state.<sup>19</sup> Proper implementation of the Phase II stormwater regulations, including those addressing Small MS4s, is essential to protecting valuable surface water resources in New Hampshire from the proven adverse impacts of stormwater. This is especially the case in light of the growing body of evidence of stormwater pollution in the state, including but not limited to, significant chlorides impairments in southern New Hampshire, and major eelgrass- and nitrogen-related impairments in numerous water bodies that are part of the Great Bay estuary.

Generally speaking, the draft permit represents an important and much-needed improvement over both the 2003 Small MS4 General Permit applicable to New Hampshire (“2003 permit”) and the prior iteration of this draft permit. CLF agrees with EPA’s assessment that, with respect to the small MS4 permit program, “the bar needs to be raised for the objectives of the Clean Water Act to be addressed,” and that the permit must be more stringent and prescriptive for the

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<sup>12</sup> *Id.* at 1.

<sup>13</sup> National Research Council, *supra* note 3, at 17.

<sup>14</sup> EPA, *TMDLs to Stormwater Permits Handbook*, *supra* note 7, at Cover Letter.

<sup>15</sup> National Research Council, *supra* note 3, at 25.

<sup>16</sup> *Id.*

<sup>17</sup> EPA Region 1, “Stormwater,” <http://www.epa.gov/region1/topics/water/stormwater.html>.

<sup>18</sup> EPA Region 1, *Restoring Impaired Waters: Total Maximum Daily Loads (TMDLs) and Municipal Stormwater Programs* at 1 (Apr. 2009), available at

<http://www.epa.gov/region1/npdes/stormwater/assets/pdfs/RestoringImpairedWaters.pdf>.

<sup>19</sup> New Hampshire Department of Environmental Services, *Environmental Fact Sheet: Low Impact Development and Stormwater Management 1* (2010), available at

<http://des.nh.gov/organization/commissioner/pip/factsheets/wmb/documents/wmb-17.pdf>.



program to achieve its statutory purpose. *See* Fact Sheet at 148.<sup>20</sup> Generally speaking, and without in any way waiving specific concerns expressed *infra*, we support the draft permit's more prescriptive requirements for ensuring that discharges from small MS4s do not cause or contribute to the violation of water quality standards. *See* Draft Permit §§ 2.1, 2.2.

## **II. The Draft Permit Should Be Amended to Include Performance Standards Reflecting Low Impact Development ("LID") and Green Infrastructure as a Mandatory Requirement of Meeting the "Maximum Extent Practicable" Standard**

CLF strongly urges the inclusion of permit performance standards that reflect Low Impact Development ("LID") or "green infrastructure" stormwater management practices as a mandatory requirement of satisfying the "maximum extent practicable," or "MEP," standard. As CLF explained in its March 31, 2010 comments on the Draft General Permit for Small MS4s for Massachusetts North Coastal Watersheds, and in its July 2010 supplemental comments on the Draft New Hampshire Small MS4 permit, LID/green infrastructure practices "are widely available, well proven, are generally more effective than conventional infrastructure at pollutant removal and volume reduction, and confer additional benefits to the community and the environment." *See* Correspondence from Cynthia E. Liebman, Staff Attorney, Conservation Law Foundation, to Thelma Murphy, Office of Ecosystem Protection, U.S. EPA Region 1 (March 31, 2010) (hereinafter "CLF 2010 Comments"), provided herewith as Attachment 1. Attachments A, B, C, and D1-73 to CLF's 2010 Comments<sup>21</sup> explain in great detail that these practices represent "the current expression of controlling polluted stormwater runoff to the 'maximum extent practicable' ('MEP')." *Id.* As CLF explained:

From the outset, EPA has made clear the expectations that technologies would evolve, and that the Maximum Extent Practicable standard in the second round of small MS4 permits would reflect what was learned about the effectiveness of the BMP implemented during the first round. The need to meet water quality standards was to drive the evolution of the MEP standard, itself, because the ultimate objective of all BMPs is to ensure the attainment of water quality standards. As EPA expressed in the MS4 Final Rule:

[The Maximum Extent Practicable standard] should continually adapt to current conditions and BMP effectiveness and should

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<sup>20</sup> EPA describes the shortcomings of the small MS4 program to date, as follows:

... EPA has found that the extremely flexible approach embodied in the MS4-2003 had a number of negative consequences. For example, it proved extremely difficult to assess progress in implementing the minimum measures and improving stormwater management practices based on the annual reports, examination of SWMPs and even site visits. EPA is also aware that compliance with the MS4-2003 was not consistently adequate, and that the flexibility inherent in the MS4-2003 was in some cases interpreted in a manner that did not result in improvements in municipal practices or benefits to water quality. The reissued permit is specifically intended to set higher standards and increase EPA's ability to track activities under the SWMPs, consistent with the national approach as stormwater permits are reissued. ...

Fact Sheet at 143. CLF agrees with this general assessment of the program's shortcomings to date, and that the more prescriptive approach set forth in the draft permit is greatly warranted.

<sup>21</sup> Attachments A, B, C and D1-73 of CLF's 2010 Comments are provided herewith, on an enclosed disc.

strive to attain water quality standards. Successive iterations of the mix of BMPs and measurable goals will be driven by the objective of assuring maintenance of water quality standards. If, after implementing the six minimum control measures there is still water quality impairment associated with discharges from the MS4, after successive permit terms the permittee will need to expand or better tailor its BMPs within the scope of the six minimum control measures for each subsequent permit.

64 Fed. Reg. 68722, 68754 (Dec. 8, 1999) (EPA Stormwater Phase II Final Rule).

EPA anticipated that “the NPDES permitting authority may ask the permittee to revise their mix of BMPs, for example, to better reflect the MEP pollution reduction requirement.” 64 Fed. Reg. 68722, 68754 (Dec. 8, 1999) (EPA Stormwater Phase II Final Rule). **At this juncture, ten years after the Small MS4 program was first enacted, and given the wealth of data generated in the interim, it would be inappropriate for EPA Region 1 *not* to include LID-based performance standards and revise the scope of required BMPs to reflect LID/green infrastructure.**

Comments by Dr. Robert Roseen, Director of the University of New Hampshire Stormwater Center on the draft permit<sup>22</sup> . . . and Dr. Stephanie Hurley’s Statement on Low-Impact Development<sup>23</sup> . . . confirm that Low-Impact Development and green infrastructure is well tested, effective at stormwater volume reduction and pollutant removal, suitable for New England, and confers ancillary benefits.

Dr. Roseen’s professional opinion is that “LID stormwater management works effectively throughout multiple seasons including challenging winter conditions. Data shows that it works better for water quality than conventional stormwater management.”<sup>24</sup> He also confirms that studies have shown LID to be cost effective and in some cases to result in cost savings.<sup>25</sup> Furthermore, Dr. Roseen cautions that “with the raising of the standards for MEP . . . certain practices should be *disallowed* for usage. Practices that have been demonstrated to be contributing to the water quality failures should be eliminated . . . .”<sup>26</sup>

Dr. Hurley’s professional opinion regarding LID is that it “offers a more ecological, flexible, and context-sensitive stormwater management approach—and more readily meets water quality and hydrologic performance standards—than conventional stormwater management.”<sup>27</sup> Furthermore, Dr. Hurley has

<sup>22</sup> Dr. Roseen’s comments are provided herewith as Attachment A to CLF’s 2010 Comments. It should be noted that Dr. Roseen is no longer with the UNH Stormwater Center.

<sup>23</sup> Dr. Hurley’s Statement on Low-Impact Development is provided herewith as Attachment B to CLF’s 2010 Comments.

<sup>24</sup> Attachment A to CLF’s 2010 Comments at 1.

<sup>25</sup> *Id.* at 2.

<sup>26</sup> *Id.* at 1 (emphasis added).

<sup>27</sup> Attachment B to CLF’s 2010 Comments at 2.



personally evaluated LID implementation sites at various locations throughout the U.S. and internationally, and confirms that “the principles of LID design can be successfully applied in various topographies, geographies, and climates” including New England, and at a variety of scales.<sup>28</sup> Her conclusion is that LID represents the maximum extent practicable for stormwater treatment.<sup>29</sup>

The direct testimony of Richard Horner, before the Pollution Control Hearings Board for the State of Washington in the matter of the Seattle Phase I stormwater permit (Attachment D3), affirmed that LID techniques are “unquestionably ‘known’ and ‘available’ techniques. In many cases, implementation of LID for new or redevelopment is less costly than conventional BMPs, and offers other economic benefits such as improved property values or reduced water use.”<sup>30</sup> Dr. Horner further asserted that the Seattle Phase I permit at issue did not “use all known available and reasonable methods” to control stormwater from new and redevelopment, and it was “highly unlikely” that compliance with water quality standards could be achieved using conventional techniques.<sup>31</sup> Further, he asserted that “LID approaches are far more protective of water quality than the conventional BMPs” and that the permit did not reflect the maximum extent practicable standard.<sup>32</sup>

The direct testimony of Dr. Derek Booth in the same matter asserted that “the [Seattle Phase I] Permit . . . does not protect rivers and streams, beneficial uses, or aquatic life. Continued reliance on such a [flow-based] standard for new development in western Washington will not prevent serious and significant additional degradation to these resources,” and in his professional opinion, “a more protective performance standard that more closely matches natural hydrology . . . is readily achievable without sacrificing opportunities for future development. Achieving a more protective standard would rely on site- and basin-level LID BMPs that are in my opinion, sufficiently well known, understood, available and economically and technologically feasible that they can be implemented throughout western Washington.”<sup>33</sup>

Thomas Holz, an experienced civil engineer, testified that

LID approaches are generally more effective at protecting water quality and beneficial uses than the engineered, end-of-pipe standards embraced in the 2005 [Washington] Manual and Permit. They are known, available, and reasonable (as well as “practicable”) in virtually all new and redevelopment situations.

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<sup>28</sup> *Id.* at 2-3.

<sup>29</sup> *Id.* at 3.

<sup>30</sup> Attachment D3 to CLF 2010 Comments at ¶27.

<sup>31</sup> *Id.*

<sup>32</sup> *Id.*

<sup>33</sup> Attachment D2 to CLF 2010 Comments at ¶ 33.

(Attachment D1, [of CLF's 2010 Comments] at ¶ 33.)

**In addition, a wealth of technical articles, case studies, litigation documents, and federal government guidance documents and fact sheets summarized in Attachment C and included as Attachments D4 – [73] all demonstrate these principles.**

CLF 2010 Comments, provided as Attachment 1, at 11-13 (emphasis in original). In addition to the above, it is important to note that the N.H. Department of Environmental Services has itself acknowledged the limitations associated with conventional stormwater management practices, stating in its 2008 Water Resources Primer:

Data from national studies and from the UNH Stormwater Center have shown that conventional approaches to stormwater management (detention basins, treatment swales) do not meet DES's current performance standard of 80 percent removal of total suspended solids (the most commonly used benchmark for such structures) and that **they do not provide a viable means of meeting future water quality objectives. . . .**

NHDES, NEW HAMPSHIRE WATER RESOURCES PRIMER, R-WD-08-23 (Dec. 2008) at 10-5 (available at <http://des.nh.gov/organization/divisions/water/dwgb/wrpp/primer.htm>). Additional and more recent resources provided herewith reinforce the value, effectiveness, and importance of implementing LID. See Attachments 2, 2A – 2O (provided on disc). Consistent with the well established body of evidence that LID is practicable and a critically important tool for controlling stormwater pollution to the maximum extent, the State of Washington's Pollution Control Hearings Board invalidated that state's 2007 Phase I Municipal Stormwater Permit for its failure to require LID and remanded the permit for amendments establishing LID requirements.<sup>34</sup>

<sup>34</sup> In invalidating the state's permit for its failure to require LID, the Pollution Control Board stated, in pertinent part, as follows:

The testimony presented by [the Puget Sound Alliance], the Utilities, and [the Department of] Ecology's technical experts leads to the indisputable conclusion that application of LID techniques, at the parcel and subdivision level, is a currently known and existing methodology that is reasonable both technologically and economically to control discharges entering into MS4s covered by the Phase I Permit. The great weight of testimony before the Board, from various experts and Ecology witnesses was that in order to reduce pollution in urban stormwater to the maximum extent practicable, and to apply AKART, it is necessary to aggressively employ LID practices *in combination* with conventional stormwater management methods. Thus, we conclude under state law, the permit must require greater application of LID techniques, where feasible, in combination with the flow control standard, to meet the AKART standard. The permit must also require the application of LID, where feasible, and conventional engineered stormwater management techniques to remove pollutants from stormwater to the maximum extent practicable in order to comply with federal law. Our recognition that use of LID is to be employed where feasible recognizes that, like all stormwater management tools, it too is subject to limitations in its practical application by site or other constraints. See Findings of Fact 49-51. We do not change the applicable legal standard by use of this term. Accordingly, the permit must be remanded for modification in light of this conclusion.

*Puget Soundkeeper Alliance et al. v. State of Washington, Dept. of Ecology et al.*, 2008 WL 5510413 at 26 (2008). With respect to modification of the permit on remand, the Pollution Control Board ordered, in pertinent part, as follows:

With respect to the use of LID, . . . [the Department of] Ecology shall also modify the permit consistent with this opinion as follows:

a. Modify Permit Condition S5.C.5.b to read as follows:



In its Fact Sheet for the instant draft permit, EPA itself acknowledges that it “has interpreted the MEP requirement as representing an iterative approach that requires that standards be raised each permit term so that progress will be made toward the attainment of water quality standards and towards the goals of the Clean Water Act established by Congress.” Fact Sheet at 144. It further describes the superiority and value of LID, as compared to conventional stormwater management approaches, as well as the feasibility of implementing LID, stating in its Fact Sheet:

EPA recognizes that many municipalities are more comfortable with traditional stormwater management practices such as curbs and gutters, pipes and detention basins, than they are with LID practices that mimic natural hydrology and treat stormwater as a resource. While traditional stormwater management has the virtue of familiarity, it has unfortunately become apparent that the traditional approach has resulted in significant damage to water quality that is difficult and costly to remedy. Under the traditional approach, the effects of development and urbanization on water resources are well known and include degraded habitat, incised channels, impaired aquatic life, high pollutant loads, depleted and contaminated groundwater, and higher incidence of flooding, among others. See EPA, *Incorporating Low Impact Development into Municipal Stormwater Programs*, 901-F-09-005 (April 2009). LID represents a paradigm shift in approach to reduce runoff and to mimic a site’s predevelopment hydrology by infiltrating filtering, storing, evaporating, capturing for reuse, and detaining stormwater runoff that EPA considers crucial for protecting water quality moving forward.

EPA disagrees with the comment that LID features will not function in cold climates. Research performed by the UNH Stormwater Center has produced encouraging results on the effectiveness of LID practices in winter conditions. As stated in the UNHSC 2009 Biannual Report:

**LID Weathers the Cold:** As a long-term field research program based in New England, UNHSC is uniquely suited to monitoring stormwater treatment system performance over a wide range of seasonal conditions. With four years of data complete, UNHSC research demonstrates that Low Impact Development (LID) stormwater treatment systems function well in the harsh winters of cold climate regions. This finding contradicts widely held perceptions that LID systems do not perform as well as more conventional systems in winter conditions. In fact,

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- iii. The program must (i) **require** non-structural preventive actions and source reduction approaches to (i), **including** Low Impact Development (LID), to minimize the creation of impervious surfaces, and measures to minimize the disturbance of soils and vegetation **where feasible**.
  - b. Require permittees to identify barriers to implementation of LID and, in each annual report, identify actions taken to remove barriers identified.
  - c. Require permittees to adopt enforceable ordinances that require use of LID techniques where feasible in conjunction with conventional stormwater management methods.

*Id.* at 32-33 (emphases in original).



UNHSC researchers have observed that conventional systems, such as swales, actually perform less effectively in winter months.

Fact Sheet at 102.

Despite all of the foregoing, the draft permit nonetheless adopts a flexible approach to the MEP standard that fails to require the use of LID and green infrastructure. As stated in its Fact Sheet, “EPA has intentionally not provided a precise definition of MEP to allow maximum flexibility in MS4 permitting.” Fact Sheet at 72. While CLF agrees that permittees should be provided some level of flexibility in assessing which particular stormwater management measures are appropriate and most effective in specific locational contexts, taking into account site- and water-specific factors, we disagree with a “maximum flexibility” approach that does not require the implementation of LID and green infrastructure.

Based on all of the above, including EPA’s own acknowledgment of iterative enhancements of the MEP standard and the fact that LID and green infrastructure approaches are both practicable, and represent the on-the-ground management approaches that control pollutants to the maximum extent, CLF strongly urges EPA to amend the New Hampshire draft permit to require permittees to utilize performance standards for LID/green infrastructure for purposes of satisfying the permit’s MEP standard. Absent such requirements, the permit will not fulfill or comply with the Clean Water Act’s water quality objectives.

### **III. The Draft Permit Should Be Amended to Include Performance Standards Reflecting Low-Impact Development (“LID”) and Green Infrastructure as a Mandatory Requirement of Ensuring that Discharges Do Not Cause or Contribute to the Violation of Water Quality Standards**

Parts 2.1 and 2.2 of the draft permit contain numerous requirements for purposes of ensuring that regulated MS4 discharges do not cause or contribute to the violation of water quality standards. *See* Draft Permit, Part 2.1 (pertaining to water quality based effluent limitations, including the requirement to meet water quality standards); Part 2.2 (pertaining to discharges to impaired waters). In light of all the information set forth in Part II of these comments, which CLF hereby incorporates within this Part III as if fully set forth herein, EPA should amend the draft permit to require the use of LID and green infrastructure as part of permittees’ strategies and actions to ensure that discharges from their MS4s do not cause or contribute to the violation of water quality standards. Indeed, absent such a requirement, the permit will perpetuate discharges that cause or contribute to water quality violations, in violation of the Clean Water Act.

#### IV. The Draft Permit Should Be Amended to Require – Prior to Authorization for Coverage – EPA Review and Approval of, and Public Participation Regarding, Stormwater Management Programs

The draft permit contains provisions regarding Notices of Intent (“NOIs”) for coverage. *See* Draft Permit, Parts 1.7.2 – 1.7.4. Among those provisions, the draft permit requires EPA to “provide a public notice and opportunity for comment on the contents of the submitted NOIs.” *Id.* Part 1.7.4(a). It further states:

Based on a review of an NOI, public comments received, or other information, EPA may grant authorization, extend the public comment period, or deny authorization under this permit and require submission of an application for an individual or alternative NPDES permit . . . . A small MS4 will be authorized to discharge under the terms and conditions of this permit upon written receipt of notice of authorization from EPA.

*Id.* Part 1.7.4(b).

In its comments on the prior iteration of this draft permit, CLF raised significant concerns about the inadequacy of information provided by NOIs for purposes of enabling EPA to engage in a meaningful, substantive review of permittees’ plans and to grant authorization under the permit. As stated in CLF’s prior comments:

In *Environmental Defense Center v. Browner* (“EDC”), the U.S. Court of Appeals for the Ninth Circuit addressed the type of review required for Notices of Intent (“NOIs”) submitted by small MS4s seeking coverage under a general permit.<sup>35</sup> Certain petitioners in *EDC* challenged the EPA’s small MS4 regulations on the ground that they failed to require EPA to review the substance of NOI submissions to ensure compliance with the Clean Water Act. In addressing this critical issue, the *EDC* Court started with the proposition that the Clean Water Act imposes certain substantive requirements that must, consistent with the clear intent of Congress, be satisfied by small MS4s seeking coverage under a general permit. Specifically, the Court found “the plain language of § 402(p) of the Clean Water Act, 33 U.S.C. § 1342(p), expresses unambiguously Congress’s intent that EPA issue no permits to discharge from municipal storm sewers unless those permits ‘require controls to reduce the discharge of pollutants to the maximum extent practicable.’”<sup>36</sup> The *EDC* Court concluded that EPA must review the substance of NOIs to ensure compliance.<sup>37</sup>

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<sup>35</sup> *Environmental Defense Center v. Browner*, 344 F.3d 832 (9<sup>th</sup> Cir. 2003), *cert. denied*, 124 S.Ct. 2811 (2004).

<sup>36</sup> *EDC*, 344 F.3d at 854. Of course, in addition to the “maximum extent practicable” requirement, the Clean Water Act and its regulations contain other important mandates, including the requirements (1) that discharges not cause or contribute to water quality violations, and (2) that the Phase II stormwater regulations (of which the Small-MS4 regulations are a part) constitute a comprehensive program designed “to protect water quality.” *EDC*, 344 F.3d at 844 (*citing* 33 U.S.C. § 1342(p)(6)).

<sup>37</sup> The *EDC* court stated:

According to the Phase II Rule, the operator of a small MS4 has complied with the requirement of reducing discharges to the “maximum extent practicable” when it implements its stormwater management program, *i.e.*, when it implements its Minimum Measures. . . . Nothing in the Phase II regulations requires that NPDES permitting authorities review these Minimum Measures to ensure that the measures that any given



As a result of the *EDC* decision (which the U.S. Supreme Court declined to review on *certiorari*), EPA must substantively review NOIs to ensure compliance with the Clean Water Act and applicable standards. Because NOIs include substantive elements of permit applicants' SWMPs . . . , EPA must engage in a substantive review and approval of these SWMP elements – and, by logical implication, the SWMP as a whole – to ensure compliance with all applicable standards and requirements before granting authorization to discharge.

CLF Comments on Draft NH Small MS4 Permit (Feb. 20, 2009) at 16-17.

CLF reasserts its disagreement with EPA's proposed approach to authorize discharges on the basis of the limited information contained in NOIs. More specifically, without reviewing – prior to authorization – the specific best management practices ("BMPs") permittees plan to implement, and the anticipated pollutant reductions to be achieved by those BMPs (including assurances that BMPs will prevent discharges that cause or contribute to water quality violations), the draft permit violates the Clean Water Act in two important ways.

**A. The draft permit allows for authorization of discharges absent information enabling EPA to ensure Clean Water Act compliance**

NPDES regulations state unequivocally that "[n]o permit may be issued: ...When the imposition of conditions cannot ensure compliance with all applicable water quality requirements...." 40 C.F.R. § 122.4(d) (emphasis added). Moreover, where EPA issues a permit for discharges of pollutants of concern into impaired waters that are subject to a TMDL, applicable regulations

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operator of a small MS4 has decided to undertake will *in fact* reduce discharges to the maximum extent practicable. . . . Therefore, under the Phase II Rule, nothing prevents the operator of a small MS4 from misunderstanding or misrepresenting its own stormwater situation and proposing a set of minimum measures for itself that would reduce discharges by far less than the maximum extent practicable.

In fact, under the Phase II Rule, in order to receive the protection of a general permit, the operator of a small MS4 needs to do nothing more than decide for itself what reduction in discharges would be the maximum extent practical reduction. No one will review that operator's decision to make sure that it was reasonable, or even good faith. Therefore, as the Phase II Rule stands, EPA would allow permits to issue that would do less than *require* controls to reduce the discharge of pollutants to the maximum extent practicable. . . . We therefore must reject this aspect of the Phase II Rule as contrary to the clear intent of Congress.

*EDC*, 344 F.3d at 855 (citations and parentheticals omitted) (italics in original). See also *id.* at 855, n. 32, stating, in pertinent part:

That the Rule allows a permitting authority to review an NOI is not enough; *every permit must comply with the standards articulated by the Clean Water Act, and unless every NOI issued under a general permit is reviewed, there is no way to ensure that compliance has been achieved.*

The regulations do require NPDES permitting authorities to provide operators of small MS4s with "menus" of management practices to assist in implementing their Minimum Measures, see 40 C.F.R. § 123.35(g), but again, nothing requires that the combination of items that the operator of a small MS4 selects from this "menu" will have the combined effect of reducing discharges to the maximum extent practicable.

. . . .

Absent review on the front end of permitting, the general permitting regulatory program loses meaning even as a procedural exercise.

(Emphasis added).



require that “the permitting authority *shall ensure that*: effluent limits...are consistent with the assumptions and requirements of any available [TMDL] wasteload allocation for the discharge prepared by the State and approved by EPA.” 40 C.F.R. § 122.44(d)(1)(vii)(B) (emphasis added).

The draft permit appropriately makes clear that “[t]he requirements found in [Parts 2.1 and 2.2] constitute the water quality based effluent limitations of this permit.” See Draft Permit, Part 2.1. Thus, its effluent limitations include, *inter alia*, the prohibition against discharges that “cause or contribute to an exceedance of applicable water quality standards (including numeric and narrative water quality criteria) for the receiving water.” *Id.* Part 2.1.1.a. Its effluent limitations *also* include, *inter alia*, the development of a Water Quality Response Plan (“WQRP”) addressing pollutants of concern and, as an essential component of such WQRPs, identifying BMPs that will be implemented to ensure that discharges do not cause or contribute to impairments. *Id.* Part 2.1.1.c; Part 2.2.2.a.ii. Such WQRPs are to be developed within one year of the permit effective date and must be provided as part of a Stormwater Management Program (“SWMP”), which also must be submitted within one year of the permit effective date. *Id.* Part 1.10.a; Part 1.10.2. SWMPs also must include, in addition to WQRPs, a “[d]escription of practices to achieve compliance with Part 2.2.1 (TMDL requirements) including . . . [t]he BMPs for the control measure or permit requirement . . . [and] [t]he measurable goal(s) for each BMP,” along with implementation milestones and timeframes and assessment measures for such BMPs. *Id.* Part 1.10.2.

The substantive information to be developed by permittees as part of their SWMPs, including WQRPs, is essential for purposes of defining the BMP-based effluent limits will implement, and for determining whether those BMP-based effluent limits will satisfy (1) the requirements of the Clean Water Act by *ensuring* compliance with all water quality requirements (see 40 C.F.R. § 122.4, 40 C.F.R. § 122.44(d)(1)(vii)(B), *supra*), and (2) the draft permit’s own prohibition against discharges that “cause or contribute to an exceedance of applicable water quality standards (including numeric and narrative water quality criteria) for the receiving water.” Draft Permit, Part 2.1.1.a. The draft permit’s approach of authorizing permit coverage on the basis of the limited information provided by NOIs, and without the substantive information required in SWMPs and WQRPs, violates CWA regulations because it allows EPA to authorize discharges that it knows are contributing to violations of WQS without first *ensuring* that the eventual BMP-based effluent limitations will satisfy all water quality requirements. Moreover, allowing permittees to develop SWMPs, WQRPs and associated BMPs *after* having been authorized under the permit, and absent further review and approval by EPA, amounts to impermissible self regulation. See *Puget Soundkeeper Alliance et al. v. State of Washington, Dept. of Ecology et al.*, 2008 WL 5510413 (Wash. Pol. Control Bd.) (Aug. 7, 2008) at 30.

#### **B. The draft permit violates the Clean Water Act’s public participation requirements**

“The [Clean Water] Act unequivocally and broadly declares...that ‘[p]ublic participation in the development, revision, and enforcement of any regulation, standard, effluent limitation, plan, or program established by the Administrator or any State under this Act shall be provided for, encouraged, and assisted by the Administrator and the States.’ 33 U.S.C. § 1251(e)” *Waterkeeper*



*Alliance, Inc. v. U.S. Env't Prot. Agency*, 399 F.3d 486, 503 (2d Cir. 2005) (emphasis added). Rather than providing for, encouraging, and assisting public participation in the development and possible revision of the permit's essential water quality-based effluent limitations – such as SWMPs, WQRPs, and the specific BMPs contained therein – the draft permit's cart-before-the-horse structure precludes such participation. Specifically, nothing in the draft permit would provide the public the opportunity to receive notice, provide comment, and seek a hearing regarding permittees' substantive plans to control stormwater prior to EPA's grant of authorization under the permit. When, as is the case here, a polluter-created document such as a SWMP or WQRP contains the substantive information needed to assess whether a polluter will comply with applicable Clean Water Act standards, the Act requires *pre-approval* public notice and comment on the polluter's submission.<sup>38</sup> See *Waterkeeper Alliance*, 399 F.3d at 502-503 (recognizing Nutrient Management Plans under EPA's final rule regulating Concentrated Animal Feeding Operations (CAFO) were "effluent limitations" within meaning of the Clean Water Act; striking down CAFO Rule for depriving the public of its right to assist in the "development, revision, and enforcement of . . . [an] effluent limitation."). See also *Env't Def. Center*, 344 F.3d at 857 ("[I]f the Phase II Rule does not make NOIs "available to the public," and does not provide for public hearings on NOIs, the Phase II Rule violates the clear intent of Congress.").

#### **V. Methods Used to Calculate Phosphorous Loads and Phosphorus Reduction Credits Must Ensure Accurate Results and Eliminate the Potential for Double-Counting**

CLF strongly supports the more detailed and prescriptive approach for reducing phosphorus pollution, particularly for MS4s discharging to water bodies that are subject to phosphorus TMDLs. To ensure the effectiveness of the permit's regulation of phosphorus, however, we urge EPA to address the following in its final permit:

##### **A. Credits for IDDE-related phosphorous reductions**

Appendix F of the draft permit describes a methodology for calculating (1) the Watershed Phosphorus Load, described as "a measure of the annual phosphorous load discharging in stormwater from the impervious and pervious areas of the impaired watershed"; (2) the Watershed Phosphorus Pounds Reduction, also referred to as the "Phosphorus Reduction Requirement," representing "the required reduction in annual phosphorus load in stormwater to meet the WLA for the impaired watershed"; and (3) the BMP Load, representing "the annual phosphorus load from the drainage area to each proposed or existing BMP used by the BMP Load to claim credit against its Phosphorus Reduction Requirement." Permit, App. F, Attach. 1 at 1. Appendix F proceeds to describe the methods by which permittees are to calculate phosphorus load reduction credits for five enumerated "enhanced non-structural control practices." *Id.*, App. F, Attach. 2 at 1. It further states:

The methods include the use of default phosphorus reduction factors that EPA has determined are acceptable for calculating phosphorus load reduction credits for these practices.

<sup>38</sup> The draft permit's requirement that the permittee "shall annually provide the public an opportunity to participate in the review and implementation of the SWMP" does not satisfy this requirement, because the contemplated public participation is post-authorization. Draft Permit, Part 2.3.3.2.



... The estimates of annual phosphorus load and load reductions resulting from BMP implementation are intended for use by the permittee to measure compliance with its Phosphorus Reduction Requirement under the permit.

*Id.*

Of particular concern, Appendix F includes the elimination of illicit connections and discharges among the non-structural control practices for which a municipality may claim a phosphorus reduction credit. More particularly, it includes the elimination of such discharges for purposes of claiming a phosphorus reduction credit without any consideration whatsoever of illicit discharges in the methodology for calculating the Watershed Phosphorus Load, Phosphorus Reduction Requirement, and BMP Load. Compare Attachments 1 and 2 of App. F. Whereas the methods set forth in Attachment 1 of Appendix F clearly and exclusively focus on phosphorus loads generated in stormwater by different types of land cover (i.e., pervious and impervious) and land uses (e.g., commercial, highway, forest), nowhere do they include consideration of phosphorus loads from illicit discharges and connections. We urge EPA to either (a) amend its methodology to add illicit discharges and connections to the calculations required in Attachment 1 of Appendix F, or (b) remove the elimination of illicit discharges and connections from among the non-structural BMPs for which permittees may claim phosphorus reduction credit as set forth in Attachment 2 of Appendix F, and set up a separate accounting for loads and load reductions associated with illicit discharges and the elimination of such illicit discharges.

Regardless of which approach EPA chooses to follow with respect to the accounting of loads and load reductions associated with illicit connections and their elimination, it is essential that the methodology not overstate the amount of phosphorus contained in discharges from illicit connections. Specifically, Appendix F, Attachment 2 contains an equation for calculating an “illicit disconnection credit” premised on the assumption of “5.3 mg/L (phosphorus concentration in sewerage).” *Id.* App. F, Attach. 2 at 7. We strongly question whether relying on a “phosphorus concentration in sewerage” is appropriate, in light of the diluting effects associated with inflow and infiltration. Ensuring a proper baseline assumption is essential for accurately assessing – and not inaccurately overstating – the phosphorus-load contributions of illicit connections and discharges, and the phosphorus-reduction benefits of eliminating such connections. Should EPA’s methodology overstate phosphorus loads associated with illicit connections and discharges, it could inaccurately understate the relative importance of phosphorus loads from stormwater and the reduction of such loads through stormwater controls. The above concerns pertain not only to the methods specifically enumerated by EPA, but also to any “Alternative Methods and/or Phosphorus Reduction Factors” the draft permit may authorize permittees to develop. See *id.*, App. F, Attach. 2 at 1.

#### **B. Enhanced organic waste and leaf litter collection**

The draft permit identifies “Organic Waste and Leaf Litter Collection program” among the five enumerated enhanced non-structural BMPs for which permittees may claim a phosphorus reduction credit. Permit App. F, Attach. 2 at 1, 5-6. Among those non-structural BMPs, the permit also allows permittees to claim phosphorus reduction credits for enhanced street-



sweeping programs, and catch basin cleaning. *Id.*, Attach. 2 at 1-4. Because street sweeping (whether as part of an enhanced program or not) and catch-basin cleaning can reduce the phosphorus loading impacts of organic waste and leaf litter, CLF is concerned that the draft permit could unwittingly allow for a double-counting (or at least *over*-counting) of phosphorus reduction credits. We urge EPA to take necessary measures to ensure that any phosphorus reduction associated with street-sweeping and / or catch basin cleaning not also be counted for purposes of phosphorus reduction credits associated with enhanced organic waste and leaf litter collection.

## VI. Discharges to Impaired Waters

As discussed in Part I, *supra*, CLF supports the more stringent and prescriptive requirements of the draft permit as they relate to discharges to impaired waters. In addition, CLF specifically notes its support for the draft permit's flexible approach of allowing additional waters to be treated as "impaired" based on water quality or modeling information. *See* Draft Permit § 2.2 ("EPA or the State agency may determine that additional waters shall be treated as 'impaired' waters pursuant to this Part based on water quality or modeling information and shall notify the affected MS4 operators of any such determination."). In light of the five-year permit term, we believe this flexibility is critical for addressing impairments that may not be currently known and / or impaired conditions that may not be documented yet in New Hampshire's Section 303(d) list of impaired waters.

## VII. Discharges Subject to an Approved TMDL

CLF supports the draft permit's provision expressly stating that, in addition to specific requirements set forth in the permit relative to compliance with approved TMDLs, "EPA may notify the small MS4 of the need to comply with additional requirements that are consistent with the assumptions and requirements of the Waste-Load Allocation (WLA)." Draft Permit, Part 2.2.1.b.

CLF urges EPA to amend the first sentence of Part 2.2.1.g as follows: "Permittees identified in Appendix F, or above, shall document in their annual report all control measures implemented during the reporting period ~~or~~ **and** planned to be implemented in the next reporting period to control pollutants identified in the approved TMDLs and provide an assessment of the effectiveness of the implemented BMPs, **and of the projected effectiveness of any additional BMPs to be implemented in the next reporting period, in terms of complying with the applicable TMDLs.**" *See* Draft Permit, Part 2.2.1.g (bold-face type indicates proposed new language).

## VIII. Discharge to an Impaired Water Without an Approved TMDL

CLF strongly supports the general requirement set forth in Part 2.2.2 that if there is a discharge from an MS4 to an impaired water without an approved TMDL, "the permittee shall address in the SWMP and annual reports how the discharge of pollutant(s) identified as causing the impairment (pollutant(s) of concern) will be controlled such that they do not cause or contribute to the impairment." *See* Draft Permit, Part 2.2.2. We trust that the parenthetical language



immediately following the above-quoted provision (pertaining to specific requirements pertaining to the Great Bay Estuary watershed) is intended to impose requirements that are supplemental to, and that do not supplant, the above-quoted general requirement. CLF supports the WQRP requirements set forth in Part 2.2.2, with the qualification that such plans should be required to include LID (*see supra* Parts II and III) and should be subject to public notice and comment and EPA review and approval prior to authorization of coverage (*see supra* Part IV).

## IX. MS4s Affecting the Great Bay Estuary

The Great Bay estuary is one of New Hampshire's most productive and diverse habitats. Comprised of the Piscataqua River, Little Bay and Great Bay, and receiving freshwater flows from several small creeks and seven major rivers – the Oyster, Bellamy, Lamprey, Squamscott, Winnicutt, Cocheco and Salmon Falls Rivers – the estuary contains a broad diversity of habitat types, and a broad array of wildlife species. Among its dependent wildlife, the Great Bay estuary provides important habitat for numerous fish species.<sup>39</sup> Many of these species, such as Atlantic cod, are important commercial fish. Others, such as a variety of herring, are forage fish that support commercial fisheries by serving as an important building block in the marine food chain. Still other species, such as striped bass and bluefish, are important recreational fisheries. In addition to finfish, the estuary supports shellfish, such as oyster and blue mussels, and other invertebrates.

Eelgrass is a cornerstone of the Great Bay estuary ecosystem, serving an important role for fish, invertebrates and birds alike. Eelgrass meadows in the estuary provide breeding grounds, nurseries, food, and cover for many fish as well as important habitat for invertebrate species. The abundant aquatic life found in eelgrass meadows, in turn, provides an important food source for birds. Eelgrass meadows also serve a critically important water quality function by stabilizing sediments and filtering contaminant. As the N.H. Estuaries Project has noted: eelgrass is “an essential habitat for the estuary, the loss of which would fundamentally alter the ecosystem of the bay.” NHEP, *Environmental Indicator Report: Critical Habitats and Species* (March 2006) at 8.

The Great Bay estuary is in jeopardy as a result of increasing nitrogen concentrations and significant declines in eelgrass habitat. As a result, assessment units throughout the estuary have been designated as impaired, pursuant to Section 303(d) of the Clean Water Act, for failing to meet aquatic life uses. While a small number of communities in the Great Bay estuary watershed have persistently argued that the science of eutrophic conditions in the estuary somehow has not been sufficiently established, CLF agrees that there is an urgent need to reduce nitrogen discharges into the estuary from MS4s, wastewater treatment facilities, and other sources. CLF agrees with and supports EPA's assessment that “there is sufficient basis to begin addressing nitrogen discharges to the Great Bay notwithstanding any remaining scientific

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<sup>39</sup> The estuary is designated Essential Fish Habitat (EFH) by the National Marine Fisheries Service for numerous fish species in various life stages, including Atlantic cod, Atlantic herring, Atlantic sea scallop, haddock, pollock, red hake, white hake, window-pane flounder, yellowtail flounder, Atlantic mackerel, and bluefish. The Cocheco River, which flows through Dover into the Piscataqua River, is designated EFH for Atlantic salmon for all of its life stages. In addition to these EFH-designated species, the estuary supports numerous other fish, including striped bass, smooth flounder, rainbow smelt, Atlantic sturgeon, American shad, river herring (blueback herring and alewives), black sea bass, American eel, white perch, sea lamprey and Atlantic silversides.




uncertainty regarding the precise relative contribution of nitrogen from MS4 discharges.” Fact Sheet at 22; *see* Correspondence from Drs. Ivan Valiela and Erin Kinney to Tom Irwin, CLF (July 28, 2011), provided herewith as Attachment 3. CLF further agrees with the special treatment the draft permit provides for addressing MS4 discharges to impaired waters in the estuary, and tributaries to such waters. We believe, however, that the nitrogen-control elements of the draft permit are not sufficiently detailed and prescriptive to address the significant water quality problems facing the estuary, and that the permit should be amended to model its approach for nitrogen control on the phosphorus control plan requirements set forth in Appendix F, with more detailed requirements and timelines.

With specific regard to requirements and methodologies set forth in Appendix H, Attachment 1 of the draft permit, CLF has the same concerns with respect to illicit discharges and nitrogen pollution as expressed *supra* relative to illicit discharges and phosphorus. Specifically, CLF is concerned with the assumption that total nitrogen concentrations in illicit discharges are equivalent to the total nitrogen concentrations found in sewerage – an assumption that may inaccurately overstate the amount of nitrogen reduced by eliminating illicit connections and discharges. *See* App. H, Attach. 1 at 1 (using 40 mg/L total nitrogen, the “nitrogen concentration in sewerage,” as assumed concentration of total nitrogen in illicit discharges). We also urge EPA to ensure that WQRPs avoid potential double-counting of nitrogen reductions associated with related BMPs (*e.g.*, street-sweeping and organic waste / leaf litter collection programs could lead to double-counting of nitrogen reductions – a scenario which must be avoided to accurately assess the effectiveness of SWMPs and WQRPs).

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Again, CLF appreciates the opportunity to provide these comments. We request that we be provided notice of any other proceedings pertaining to this draft permit. Should you have any questions regarding these comments, please do not hesitate to contact me.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read "Tom Irwin", followed by a stylized flourish.

Tom Irwin  
V.P. & CLF New Hampshire Director